

XLVII.—*Notes on the Crustacea of the Channel Islands.* By Canon A. M. NORMAN, M.A., D.C.L., LL.D., F.R.S., F.L.S.

[Plates XVI. & XVII.]

THE following publications relate to those Crustacea which are already recorded from the Channel Islands :—

1. 'The Channel Islands.' By D. T. ANSTED and R. G. LATHAM. 1862, pp. 231-235. In this work the list of Cirripedia was supplied by Mr. Collings, that of the Stalk-eyed Crustacea by Mr. Lukis and Mr. Le Lievre, that of the Isopoda and Amphipoda by Mr. Le Lievre, and that of the Entomostraca by Mr. Collings.
2. 'Recherches sur la Faune Marine des Iles Anglo-Normandes.' By Dr. RENÉ KÖHLER. 1885.
3. WALKER (A. O.) and HORNELL (J.). "Report on the Schizopoda, Cumacea, Isopoda, and Amphipoda of the Channel Islands," Journ. Marine Zoology and Microscopy, vol. ii. 1896, pp. 49-55.
4. THOMPSON (ISAAC C.). "Report on the Plankton Copepoda of the Channel Isles," Journ. Marine Zoology and Microscopy, Dec. 1897. I have not seen this paper, but, according to Mr. Sinel, it contains thirty-one species.
5. SINEL (JOSEPH). "A Contribution to our Knowledge of the Crustacea of the Channel Islands," Trans. Guernsey Soc. of Nat. Sci. 1906.

M. Chevreux collected at Jersey, and sent a list of species to Messrs. Walker and Hornell for use in their Catalogue.

THE STALK-EYED CRUSTACEA (EXCEPT SCHIZOPODA).

The following is a full list of the Stalk-eyed Crustacea which have been recorded. I have found almost all the species myself, but they are here given on the authority of (A.) Ansted, (K.) Köhler, (S.) Sinel. Where no letter follows a name all three writers include the species; where an initial letter or letters follow the name it must be understood that the writer or writers thus indicated record the species.

After the list I add some notes on a few species.

Many of the Stalk-eyed Crustacea which are found in the Channel Islands have been figured by Mr. J. Sinel in his recently published 'An Outline of the Natural History of our Shores,' 1906 (Swan, Sonnenschein, & Co.). This is a very useful work for any person commencing the study of marine zoology.

Ebalia tuberosa, Pennant.
 — *tumefacta*, Montagu.
 — *Cranchii*, Leach.
Corystes cassivelaunus, Montagu.
Ateleyclus septemdentatus, Montagu. A., S.
Thia polita, Leach.
Polybius Henslowii, Leach. A., S.
Portunus latipes, Pennant. K., S.
Portunus puber, Linné.
 — *corrugatus*, Pennant.
 — *depurator*, Linné. K., S.
 — *marmoreus*, Leach. K., S.
 — *holsatus*, Fabricius.
 — *pusillus*, Leach.
 — *arcuatus*, Leach.
Bathynectes longipes, Risso. S.
Carcinus mœnas, Linné.
Perimela denticulata, Montagu.
Pilumnus hirtellus, Linné.
Xantho floridus, Montagu.
 — *hydrophilus*, Herbst.
Cancer pagurus, Linné.
Gonoplax angulatus, Pennant. S.
Nautilograpsus minutus, Linné. A.
Pinnotheres pisum, Pennant.
Eurynome aspera, Pennant.
Mamaia squinado, Herbst.
Pisa tetraodon, Pennant.
 — *biaculeata*, Montagu.
Hyas coarctatus, Leach.
 — *araneus*, Linné. K.
Inachus dorsettensis, Pennant.
 — *dorynchus*, Leach.
 — *leptochirus*, Leach. K., S.
Achæus Cranchii, Leach. K., S.
Macropodia rostrata, Linné.
 — *longirostris*, Fabricius.
 — *ægyptia*, H. M.-Edwards. K., S.
Dromia vulgaris, H. M.-Edwards.

Anapagurus Hyndmanni, W. Thompson. K., S.
Pagurus bernhardus, Linné.
 — *Prideauxii*, Leach.
 — *cuanensis*, W. Thompson. K., S.
Galathea strigosa, Linné.
 — *squamifera*, Montagu.
 — *nexa*, Embleton K.?, S.
 — *intermedia*, Lilljeborg. S.
Porcellana platycheles, Pennant.
 — *longicornis*, Pennant.
Callianassa subterranea, Montagu.
Upogebia stellata, Montagu.
Axius stirynchus, Leach.
Arctus ursus, Dana.
Palinurus vulgaris, Latreille.
Homarus gammarus, Linné.
Crangon vulgaris, Linné.
Pontophilus spinosus, Leach. S.
Ægeon (?) *trispinosus*, Hailstone. S.
 — *fasciatus*, Risso. K., S.
 — *sculptus*, Bell. A., S.
Nika edulis, Risso. K., S.
Lysmata seticaudata, Risso. S.
Alpheus macrocheles, Hailstone. K., S.
Athanas nitescens, Montagu.
Hippolyte varians, Leach. K., S.
 — —, var. *fascigera*, Gosse. S.
 — *Prideauxiana*, Leach. S.
Spirontocaris Cranchii, Leach. K., S.
Pandalus annulicornis, Leach. K., S.
Pandalina brevisrostris, Rathke. S.
Anchistia scripta, Heller. S.
Palæmon serratus, Pennant.
 — *squilla*, Leach. K., S.
Palæmonetes varians, Leach. A., S.
Squilla Desmarestii, Risso.

Anapagurus levis, W. Thompson. I dredged several specimens of this species near St. Peter's Port Harbour, Guernsey, last summer (1906), and *A. Hyndmanni* and *P. cuanensis* in the same neighbourhood.

Galathea dispersa, Bate.

— *intermedia*, Lilljeborg.

Both these species occur off Guernsey, but I have not seen *G. nexa* from the Channel Isles. It is possible that the species which has been recorded as *G. nexa* was really *G. dispersa*.

Lysmata seticaudata, Risso.

1816. *Melicerta seticaudata*, Risso, Hist. nat. Crustacés de Nice, p. 110, pl. ii. fig. 1.
 1826. *Lysmata seticaudata*, Risso, Hist. nat. de l'Europe mérid. vol. v. p. 62.
 1828. *Lysmata seticaudata*, Roux, Crust. de la Médit. pl. xxxvii.
 1837. *Lysmata seticaudata*, H. Milne-Edwards, Hist. nat. des Crust. vol. ii. p. 386, pl. xxv. fig. 10; Atlas Règ. Anim. de Cuvier, pl. liv. fig. 3.
 1863. *Lysmata seticaudata*, Heller, Crust. des südlichen Europa, p. 234, pl. viii. fig. 1.
 1906. *Lysmata seticaudata*, Sinel (J.), An Outline of the Natural History of our Shores, p. 134.

Antennules with three flagella. Rostrum with six teeth above, of which two or three are on the carapace and two below. First feet didactyle, tolerably strong. Second feet of both sides greatly lengthened and having the carpus divided into very numerous jointlets. Telson with two pairs of dorsal spines. Outer uropod two-jointed. The colouring is peculiarly characteristic, being brilliant red, with four pale or white lines extending longitudinally along the entire length of the animal.

About the year 1889 Mr. J. Sinel procured a specimen of this beautiful Mediterranean prawn in a lobster-pot at La Rocque, Jersey. He wrote to ask me what it was, introducing into his letter a pencil sketch. That sketch undoubtedly represented *Lysmata seticaudata*, a most interesting addition to the fauna. Unfortunately the present existence of this specimen is unknown. Mr. Sinel tells me that he parted with it to some collector, but he cannot recall to mind who was the recipient. Perhaps this note may bring to light the possessor of this unique British specimen.

Spirontocaris pusiola, Kröyer. I have a Jersey specimen sent to me by Mr. Sinel many years ago.

Anchistia scripta, Risso.

1816. *Alpheus scriptus*, Risso, Hist. nat. de l'Europe mérid. vol. v. p. 78.
 (?) *Periclemenes elegans*, Costa, Fauna del Regno di Napoli, pl. vi. figs. 1-6.
 1849. *Palæmon bilinguiculatus*, Lucas, Anim. Artic. de l'Algérie, p. 45, pl. iv. fig. 4.
 1861. *Dennisia sagittifera*, Norman, Ann. & Mag. Nat. Hist. ser. 3, vol. viii. p. 8 (separate copy), pl. xiii. figs. 8-13.
 1863. *Anchistia scripta*, Heller, Crust. des südlichen Europa, p. 256, pl. viii. figs. 18, 19.

I dredged the specimen described by me in 1861 in St. Catherine's Bay, Jersey, among *Zostera* in 1859. Mr. Sinel took a second example in St. Clement's Bay, Jersey, in 1890, and Mr. Frank Wright captured a third near St. Peter's Port, Guernsey, in 1905.

SCHIZOPODA.

In the lists which follow, initials affixed to a locality make known the naturalist on whose authority it is inserted. Thus:—

H. Hornell (James).
N. Norman (A. M.).
S. Sinel (Joseph).
S. & H. Sinell and Hornell.
W. Walker (A. O.).
W. & H. Walker and Hornell.

In cases where no initial follows the locality or localities it will be understood that they are on my own authority.

Nyctiphanes Couchii, Bell. Jersey (*Sinel*, fide *Koehler*).

Siriella jaltensis, Czerniavsky. Guernsey and Jersey.

— *Clausii*, G. O. Sars. Guernsey.

— *armata*, H. M.-Edwards. Jersey.

Gastrosaccus sanctus, P. J. van Beneden. Jersey.

— *spinifer*, Goës. Jersey (*Museum at Bootle, Lancashire*, fide *W.*).

Anchialina agilis, G. O. Sars. Off Alderney, tow-net (*Dr. Gough in Mus. Nor.*); Guernsey (*W.*).

For the genus *Anchialina*, see Norman and Scott, 'Crustacea of Devon and Cornwall,' 1906, p. 24.

Heteromysis formosa, S. I. Smith. Guernsey.

Mysidopsis gibbosa, G. O. Sars. Guernsey (*A. O. Walker, in litt., Sept. 4, 1892*).

Leptomysis mediterranea, G. O. Sars. Guernsey and Jersey.

Mesopodopsis Slabberi, P. J. van Beneden. Jersey (*Museum at Bootle, Lancashire*, fide *W.*).

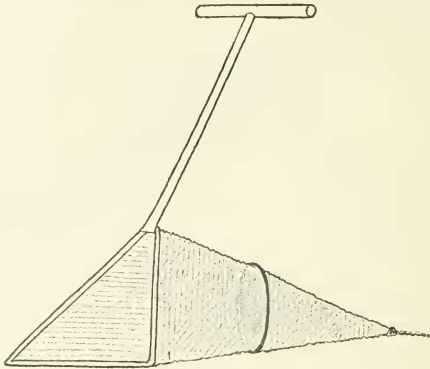
Macromysis flexuosa, Müller. Abundant.

Mr. Sinel, whom I had the pleasure of seeing at Jersey last year (1906), told me that species of *Mysidea* were caught at Jersey and made into a paste called "Chervé," used in fishing. He subsequently, in answer to my enquiries, sent me the following account of this preparation:—

"At present the fishers of 'Chervé' have to obtain a licence from the chief fishery inspector to enable them to carry on this very old practice—a very absurd law. They take it both day and night during the spring tides in the large gravelly pools, among the *Zostera*, in the southern bays.

"It is taken in large hand-nets, with usually a cross-bar

to the handle, so that the fisher's breast bears on it [see figure]. The nets are from 3 feet to 4 feet 6 inches across the wooden (ash) blade which forms the base. The best



nets are of horsehair cloth, as used for sieves, but ordinary linen cheese-cloth is mostly used. At about 18 inches from the pocket of the net a cane ring with netting of about three quarters of an inch mesh is inserted across it, so as to prevent the entrance of larger objects (crabs, shrimps, &c.) among the Mysids.

“The men usually wade waist-deep, pushing the net before them for ten minutes or so, when they untie the pocket end and empty their catch into their basket.

“When the ‘Chervé’ is brought home it is mixed with a sufficient quantity of coarse salt to preserve it, and then it is pressed into pans. It forms a pink-coloured compost. This is sold to mullet-anglers at about four shillings a gallon, though many anglers obtain a licence and take their own supply.

“The favourite places for mullet are not far from the shore, and high water is the best time for the sport. The angler takes a spoonful of ‘Chervé’ from his tin, uses it as a ground-bait, and waits awhile. If no mullet turn up in ten or twenty minutes, he tries another spot or goes home; but almost invariably a few are soon attracted, to be followed by a crowd. The ‘Chervé’ tints the water pinkish for some yards around, and has a strong and not pleasant smell, like that of boiled prawn or lobster gone bad.

"I am constantly consulted respecting some substitute for 'Chervé': crabs and shrimps pounded in a mortar and salted; ray-fish boiled with sugar; bread soaked in shrimp soup; cabbage boiled in fat, &c., &c.; but 'Chervé' still holds its own. I have often been astonished when sitting on a jetty fishing for *Labrus* &c., and not a mullet in sight for hours; then down comes a 'mulleter,' who throws in a spoonful of 'Chervé,' and in a minute one or two dark forms come into the field, then more and more, and their silvery sides flash as they turn about and suck up the 'Chervé.'"

Mr. Sinel kindly sent me a bottle of "Chervé" as taken from the net. Small pieces of seaweed were mixed with the animals. Both in numbers and in bulk *Macromysis flexuosa* predominated, but *Schistomysis spiritus* was present in large numbers, together with a few *Siriella armata*. No doubt the admixture of species would vary in different spots and in different seasons. That the *Mysidea* were used as bait was quite a new fact to me, as it probably will be to other carcinologists.

Macromysis neglecta, G. O. Sars. Guernsey and Jersey.

— *inermis*, Rathke. Guernsey.

Schistomysis spiritus, Norman. Guernsey and Jersey.

— *ornatu*, G. O. Sars. Off St. Sampson's Harbour, Guernsey.

— *Helleri*, G. O. Sars. Guernsey and Jersey.

Neomysis vulgaris, J. V. Thompson. Arnold's Pond, Guernsey, 1865.

SYMPODA (= CUMACEA).

Iphinoe trispinosa, Goodsir. Off St. Sampson's, Guernsey (N.); Jersey (W. & H.).

— *serrata*, Norman. Guernsey.

Cumopsis Goodsiri, P. J. van Benedon. Abundant from washing sand dug at low-water spring tides in Belgrave Bay, Guernsey.

Eudorella truncatula, Bate. Dredged Guernsey, 1865.

Diastylis lavis, Norman. Dredged near St. Martin's Point, Guernsey.

Pseudocuma similis, G. O. Sars. Shallow water, sand, Guernsey.

— *longicornis*, Bate. Jersey (W. & H.).

Cumella pygmaea, G. O. Sars. Guernsey.

Nannastacus unguiculatus, Bate. Guernsey (W.); Jersey (N.).

ISOPODA.

Apsicules Latreillii, Milne-Edwards. Very abundant off Guernsey (A. M. N.); Jersey (W. & H.). Bate and Westwood state
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that I had taken *A. talpa* off Guernsey, but the species I sent them was *A. Latreillii*.

Apseudes talpa, Leach. Jersey (Köhler).

Tanais Cavolinii, Milne-Edwards. Guernsey and Jersey (S. & H.).

Leptochelia Savignii, Kröyer. Guernsey (N.); Herm (Köhler); Jersey (S. & H.).

Tanaissus Lilljeborgii, Stebbing. In sand, low water, Belgrave Bay, Guernsey.

Paratanais Batei, G. O. Sars. Jersey (S. & H.); Sark (Köhler), as *Paratanais forcipatus*.

Anthura gracilis, Montagu. Jersey (S. & H.).

Paranthura nigropunctata, Lucas. Guernsey, 1865 (N.); Jersey (S. & H.).

Gnathia maxillaris, Montagu. Guernsey (N.); Jersey (S. & H.).

Anilocra physodes, Linné (= *A. mediterranea*, Leach). Herm, 1865 (N.); Jersey (S. & H.); Guernsey (F. Wright).

Æga rosacea, Risso, = *Æga bicarinata*, Leach, and Bate and Westwood. A specimen of this species was brought to me by a trawler last year at Guernsey. In 1894 (Ann. & Mag. Nat. Hist. ser. 7, vol. xiv. p. 433), and again last year in Norman and Scott ('The Crustacea of Devon and Cornwall,' p. 38), I questioned whether *Æga rosacea* could with certainty be regarded as a British species; but I had overlooked the fact that Sinel and Hornell had recorded the occurrence (in Walker & Hornell's paper) of two specimens taken at Jersey on the fish *Squatina angelus*.

Cirolana Cranchii, Leach. Off St. Sampson's Harbour, Guernsey (N.); Jersey (Köhler).

— *borealis*, Lilljeborg. Guernsey, 1865, rare.

Conilera cylindracea, Montagu. Guernsey and Jersey.

Eurydice spinigera, H. J. Hansen. Jersey (Sinel, in Mus. Nor.).

Limnoria lignorum, Rathke. Jersey (S. & H.).

Sphaeroma serratum, Fabricius. Herm (N.); Jersey (S. & H.).

— *Hookeri*, Leach. Guernsey, Cobo Bay &c., 1865.

Cymodice truncata, Montagu. Guernsey and Jersey.

Nersa bidentata, Leach. Guernsey, Herm, Jersey.

Campecopea hirsuta, Montagu. Guernsey (N.); Jersey (W. & H.).

Idotea balthica, Pallas. Common.

— *neglecta*, G. O. Sars. Guernsey, Jersey.

— *emarginata*, Fabricius. Jersey, tow-net (Köhler).

— *linearis*, Linné. Guernsey, very large (N.); Jersey (S. & H.).

— *salinarum*, Dollfus (= ? *viridis*, Slabber). Arnold's Pond, Guernsey, 1865.

Zenobiana prismatica, Risso. Jersey (Sinel, in Mus. Nor.).

- Stenosoma acuminatum*, Leach. A single specimen, St. Aubin's, Jersey (Kœhler).
 — *lanciferum*, Leach. Jersey. In Walker & Hornell's list, but no habitat is given.
Astacilla longicornis, Sowerby. Guernsey, 1865.
Asellus aquaticus, Linné. Guernsey.
Janira maculosa, Leach. Jersey (S. & H.).
Jera Nordmanni, Ráthko. Jersey (S. & H.); Sark (Kœhler).
 — *marina*, Fabricius. Guernsey, Jersey.
Jeropsis brevicornis, Kœhler. The types, Gouliot Caves, Sark (Kœhler, who kindly gave me a specimen).
Munna Krøyeri, Goodsir. Jersey (S. & H.).
 — *limicola*, G. O. Sars. Dredged, Guernsey.
Ligia oceanica, Linné. Guernsey and Jersey.
Oniscus asellus, Linné. Abundant.
Porcellio scaber, Latreille. Common.
Platyarthrus Hoffmannseggii, Brandt. St. Sampson's, Guernsey.
Armadillidium vulgare, Latreille. Abundant.
Bopyrus squillarum, Latreille. Guernsey and Jersey.
Bopyrina Giardi, Bonnier. Many on *Hippolyte varians*, Jersey, 1859.
Bopyroides hippolytes, Krøyer. "Parasitic on *Hippolyte*" (S. & H.).
Pleurocrypta galathee, Hesse. In *Galathea squamifera*, Guernsey (N.); Jersey (Kœhler).
 — *strigosa*, Giard & Bonnier. In *Galathea strigosa*.
 — *intermedia*, Giard & Bonnier. In *Galathea intermedia*, Guernsey.
Athelges paguri, Rathke. On *Pagurus bernhardus*, Guernsey, 1865 (N.); Jersey (Kœhler).
Gyge branchialis, Cornalia & Pancer. In *Upogebia stellata*, Jersey, 1859.
Ione thoracica, Montagu. In *Callianassa subterranea*, Jersey (S. & H.).
Liriopsis pygmaea, Rathke. Guernsey, 1865.

AMPHIPODA.

- Hyperia galba*, Montagu (S. & H.).
Talitrus locusta, Pallas. Common.
Orchestia gammarellus, Pallas. Guernsey (N.); Jersey (Kœhler).
 — *mediterranea*, Costa. Jersey (Chevreux, W.).
Hyale Nilssoni, Rathke. Jersey (Chevreux, W.).
 — *Lubbockiana*, Bate. Jersey (Kœhler, S.).

- Lysianassa plumosa*, Boeck, = *L. Costæ*, B. & W. (nec Milne-Edw.).
Guernsey and Jersey.
- *ceratina*, Walker, = ? *longicornis*, Lucas. Guernsey and Jersey.
- Acidostoma obesum*, Bate. Jersey (S.).
- Socarnes erythrophthalmus*, D. Robertson. Guernsey.
- Perierella Audouiniana*, Bate. Jersey (*Chevreaux*, S.).
- Tryphosites longipes*, Bate. Guernsey (N.); Jersey (S.).
- Hippomedon denticulatus*, Bate. Jersey (S.).
- Haplonyx cicada*, Fabricius, = *A. Höllböllli*, B. & W. Jersey (S. & H.).
- Callisoma Hopei*, Costa, = *C. crenata*, Bate. Jersey (S.).
- Orchomene humilis*, A. Costa, = *O. Batei*, G. O. Sars. Jersey.
- Tryphosella Sarsi*, Bonnier. Jersey (W. & H.).
- Nannonyx Goesi*. Grand Azette, Jersey, spring tide (W. & H.).
- Menigrates obtusifrons*, Boeck. Jersey (S. & H.).
- Lepidepcreum longicorne*, Bate. Guernsey (N., W.); Jersey (S. & H.).
- Bathyporeia Guilliansonia*, Bate, = *B. norvegica*, G. O. Sars.
Guernsey (N.); Jersey (S. & H.).
- *pelagica*, Bate. In sand, low water, Belgrave Bay, Guernsey (N.), Jersey (S. & H.).
- *Robertsoni*, Bate. Jersey (S.).
- Haustorius arenarius*, Slabber. Jersey (S.).
- Urothoe marinus*, Bate. Jersey (*Chevreaux*, S.).
- *brevicornis*, Bate. Guernsey (W.); Jersey (S. & H.).
- *elegans*, Bate. Jersey (S. & H.).
- *pulchella*, Costa. Jersey (*Chevreaux*).
- Metaphoxus simplex*, Bate. Guernsey (N.).
- *Fultoni*, T. Scott. Jersey (*Chevreaux*); off Noirmont Point (S. & H.).
- Harpinia neglecta*, G. O. Sars, = *Phoxus plumosus*, Bate. Jersey (S.).
- *pectinata*, G. O. Sars. Dredged off Belgrave Bay, Guernsey, several specimens. It was not a species which I could have expected to find in the Channel Islands.
- Ampelisca typica*, Bate. Guernsey (N.); Jersey (S. & H.).
- *tenuicornis*, Lilljeborg. Guernsey (N.); Jersey (*Chevreaux*).
- *assimilis*, Boeck. Off St. Martin's Point, Guernsey.
- *spinipes*, Boeck. Guernsey.
- *brevicornis*, Costa, = *A. Belliana*, B. & W. Guernsey (N.); Jersey (S. & H.).
- *gibba*, G. O. Sars. Off St. Peter's Port, Guernsey, in 7 fath., 1892 (W.).
- Amphilochus manudens*, Bate. Jersey (S. & H.).

Amphilocheus neapolitanus, Della Valle, = *A. melanops*, Walker.
Bordeaux Harbour, Guernsey; and Jersey.

Peltocoxa Marioni, Catta, = *Cyproidea damnoniensis*, Stebbing.
Jersey.

Stenothoe monoculoides, Montagu. Guernsey and Jersey.

— *marina*, Bato. Jersey (Köhler).

Metopa rubrovittata, G. O. Sars. Bordeaux Harbour, Guernsey.

— *borealis*, G. O. Sars. Off St. Martin's Point, 25 fath. (W.).

Metopa sarniensis, sp. n. (Pl. XVII. figs. 1-5.)

A very small species. The antennules and antennæ are subequal in length, and the peduncles of both are quite smooth and devoid of setæ. The first joint of peduncle of the antennules is stout and equals in length the two following joints; the flagellum is 8-jointed, the first of these joints equals in length the last two joints of the peduncle. The first gnathopod (fig. 1) is remarkable on account of the very short carpus, which is somewhat triangular; the propodos equals nearly three times the length of the carpus, it gradually tapers for the attachment of the gently curved finger; the propodos has one seta on the side near the end and a bundle of three below the attachment of the finger; the finger (fig. 2) has its distal portion minutely denticulated or serrated; two minute setæ are on its side above the serrations, and there are no others.

The second gnathopod (fig. 3) is subchelate and resembles that of many members of the genus in its general form. The hand widens gradually and slightly from its base, and distally is abruptly truncated, so that the palm is transverse (fig. 4); the nail is strong and about equals the transverse palm in length; it has on its back four setæ, and on the palm where the tip of the finger meets it there is a group of slender spines and a few setæ.

The last peræopods (fig. 5) have the basos outspread behind into a thin lamina, which is devoid of setæ or spines; the meros is expanded behind and projects down to near the extremity of the carpus.

The first gnathopods are, perhaps, more valuable in this genus for specific characters than the second, though the latter are so much the larger. In this species the first gnathopod is quite different from that of any other species of the genus known to me; both the very short carpus and the serrated tip of the finger are quite exceptional.

A single specimen was dredged, July 1906, not far from the harbour of St. Peter's Port, Guernsey.

- Leucothoe spinicarpa*, Abildgaard. Guernsey (W.); Jersey (S. & H.).
 — *Lilljeborgii*, Boeck. Guernsey.
 — “*furina*, Savigny.” Jersey (Sinel). Perhaps the same as the last.
Pereionotus testudo, Montagu. Jersey (S.).
Laphystius sturionis, Kröyer, = *Darwinia compressa*, Bate. Jersey (S. & H.).
Colomastix pusilla, Grube. Jersey (*Chevreaux*); Sark (*Köhler*).
Odius carinatus, Bate. Jersey (S.).
Epimeria cornigera, Fabricius, = *Acanthonotus Oweni*, B. & W. Jersey (S.).
Iphimedia obesa, H. Rathke. Guernsey (W.); Jersey (S.).
 — *minuta*, G. O. Sars. Guernsey.
 — *Eblance*, Bate. “Not common, Vermarette, Herm” (S.). Perhaps the preceding species, which the author did not know.
Lilljeborgia pallida, Bate. Jersey (S.).
 — *picta*, Norman. The type specimens were taken by me off Guernsey in 1865.
Monoculodes carinatus, Bate. Off St. Sampson’s Harbour, Guernsey (N.); Jersey (W. & H.).
Periculodes longimanus, Bate & Westwood. Guernsey and Jersey.
Pontocrates arenarius, Bate. “St. Clement’s Bay, Jersey, not common” (S.). Perhaps not this, but the next species.
 — *norvegicus*, Boeck. Guernsey (N.); Jersey (*Chevreaux*).
Synchelidium haplocheles, Grube. Guernsey (N.); Jersey (W. & H.).
Calliopius leviusculus, Kröyer, = *C. Rathkei*, Zaddach. Guernsey (N.); Jersey (W. & H., S.).
Apherusa cirrus, Bate, = *A. borealis*, G. O. Sars. Guernsey and Jersey.
 — *ovalipes*, Norman & Scott.
 1906. *Apherusa ovalipes*, Norman & Scott, Crustacea of Devon and Cornwall, p. 75, pl. viii. figs. 1-8.
 Fermain Bay, Guernsey.
 — *bispinosa*, Bate. Guernsey (N.); Jersey (W. & H., S.).
 — *Jurinei*, H. M.-Edwards. Tide-marks, Belgrave Bay, Guernsey (N.); Jersey (W. & H.).
Sympleustes latipes, M. Sars. Jersey (S.).
Nototropis Swammerdamii, H. M.-Edwards. Jersey (N.).
 — *vedlomensis*, Bate. Fermain Bay, Guernsey (N.); Jersey (W. & H., S.).
Dexamine spinosa, Montagu. Guernsey and Jersey.
 — *thca*, Boeck. Guernsey and Jersey.
Tritacta gibbosa, Bate. Jersey (W. & H., S.).

Guernea coalita, Norman. Bordeaux Harbour, Guernsey; and Jersey.

Eusirus longipes, Boeck. Shore near St. Helier's, Jersey (*W. & H.*).

Amathilla Homeri, Fabricius. Jersey (*S. & H.*).

Isæa Montagui, H. M.-Edwards. On *Mamaia squinado*, Guernsey (*N.*); Jersey (*S. & H.*).

Niphargus fontanus, Bate. Sinel records this from four covered-in wells in Jersey.

— *subterraneus*, Leach, = *N. aquilex*, B. & W. Mr. Frank Wright, of the Library, St. Peter's Port, has recently sent me a specimen of this species taken in a well at Guernsey.

Cheirocratus Sundevalli, H. Rathke. Fermain Bay, Guernsey (*N.*); Jersey (*Chevreux*).

— *assimilis*, Lilljeborg. Near St. Martin's Point, Guernsey.

Gammarella brevicaudata, H. M.-Edwards. Guernsey (*N.*); Jersey (*W. & H., S.*).

Gammarus locusta, Linné. Common.

— *pulex*, De Geer. Common.

— *marinus*, Leach. Guernsey and Jersey (*W. & H., S.*).

— *campylops*, Leach. Jersey (*Chevreux, W. & H., S.*)

Echinogammarus Berilloni (Catta). (Pl. XVI. figs. 1, 2.)

1878. *Gammarus Berilloni*, Catta, "Note sur le *Gammarus Berilloni*, n. sp.," Bull. Soc. Borda Dax. 1^{er} trimestre, p. 1, pl. i. figs. 1, 2.

1896. *Gammarus Berilloni*, Chevreux, Bull. Soc. Zool. France, vol. xxi. p. 24, and woodcuts.

1906. *Echinogammarus Berilloni*, Stebbing, Das Tierreich, Amphipoda, I. Gammaridea, p. 481.

I am indebted to M. Chevreux for one of the examples of this interesting species which he procured in Jersey. It is at once distinguished from our previously known British allies by the dense clothing of spines and setæ on the metasome. It was found by Catta at Mondarran (Basses-Pyrénées), and has subsequently been met with again, but only in the same district, namely at St. Jean de Lux and near Biarritz, and I have received from Don Ignacio Bolivar, of the Madrid Museum, specimens which came from San Sebastian. It is remarkable that this freshwater species should have been met with at such a place as Jersey.

Melita palmata, Montagu. Guernsey (*N.*); Jersey (*W. & H., S.*).

— *obtusata*, Montagu. Guernsey (*N.*); Jersey (*W. & H., S.*).

— *gladiosa*, Bate. Guernsey (*N.*); Jersey (*S.*).

Mera grossimana, Montagu. Guernsey, Herm, Jersey.

— *othonis*, H. M.-Edwards. Guernsey.

— *Batei*, Norman. I dredged the type specimens off St. Martin's Point, Guernsey, in 1865.

Ceradocus semiserratus, Bate. Guernsey, off St. Martin's Point.

Megaluropus agilis, Norman. Guernsey, in tow-net.

Microdeutopus danmoniensis, Bate. Guernsey and Jersey (W.).

— *gryllotalpa*, Costa. (Pl. XVI. fig. 3; Pl. XVII. figs. 6, 7.)

1893. *Microdeutopus gryllotalpa*, Della Valle, Faun. und Flor. des Golfes von Neapel, Gammarini, p. 44, pl. i. fig. 12, pl. xi. figs. 25-43.

1894. *Microdeutopus gryllotalpa*, G. O. Sars, Crust. Norway, Amphipoda, p. 543, pl. excii. fig. 2.

1906. *Microdeutopus gryllotalpa*, Stebbing, Das Tierreich, Amphipoda, I. Gammaridea, p. 590.

Found at Jersey by M. Chevreux and Mr. Sinel.

I have given figures of the one-jointed accessory flagellum of the antennules (Pl. XVII. fig. 6), which is shorter than the first joint of the flagellum, and of the first gnathopod of the male, for comparison with the same parts in the following species. This gnathopod has 2-4 toothed processes on the hinder margin of the carpus, which increase in size distally. Della Valle gives only two such processes. I figure (Pl. XVII. fig. 7) a gnathopod with three such processes from Plymouth (as figured by Sars and by Bruzelius, *Autonoe grandimana*), and (Pl. XVI. fig. 3) another carpus from Valencia, Spain, with four processes (as figured by Costa).

— *stationis*, Della Valle. (Pl. XVI. fig. 4; Pl. XVII. figs. 8-11.)

1888. *Microdeutopus gryllotalpa*, Nebeski, Beit. zur kennt. der Amphip. der Adria, p. 45, pl. iv. fig. 41.

1893. *Microdeutopus stationis*, Della Valle, Faun. u. Flor. des Golfes von Neapel, Gammarini, p. 415, pl. v. fig. 9, pl. x. figs. 31-41.

1906. *Microdeutopus stationis*, Stebbing, Das Tierreich, Amphipoda, I. Gammaridea, p. 590.

Sowinsky has referred a *Microdeutopus* found in the Black Sea to this species; but I cannot reconcile the fig. 6 in his paper of 1891 with the first gnathopod (male) of this species. Nebeski gives an interesting series of figures illustrative of the gradual change in form of the gnathopod from the young to the adult.

I last year dredged many specimens of this addition to our fauna off St. Peter's Port, Guernsey.

I have figured some of the most salient features which distinguish this species from *M. gryllotalpa*. The secondary appendage of the antennules is 3-4-jointed and is equal in length to the first three joints of the flagellum (Pl. XVII. fig. 8). The first gnathopod in the male has not quite so massive a carpus as in that species (Pl. XVII. figs. 9 & 10). The carpus is armed with three teeth at the extremity (not passing down the hind margin); these teeth are not in the same straight line, the innermost and bluntest tooth bends away from the large central tooth, so that it would appear that the finger closes down between them. Pl. XVII. fig. 11 represents the distal portion of the first gnathopod of the female, and Pl. XVI. fig. 4 the second gnathopod of the male.

Stimpsonella chelifera, Bate. Guernsey (N.); Jersey (S. ♂ H.).

Coremapus versiculatus, Bate.

1906. *Coremapus versiculatus*, Norman & Scott, Crustacea of Devon and Cornwall, p. 85, pl. ix. figs. 8-10.

Guernsey, common (*N.*); Jersey (*Chevreaux*).

Lembos Websteri, Bate. Sark (*Köhler*).

Aora typica, Krüyer, = *A. gracilis*, Bate.

Stebbing has synonymized these two names, and I think that he is right. I have taken *Aora* occasionally off Guernsey.

Leptocheirus pectinatus, Norman.

1906. *Leptocheirus pectinatus*, Norman & Scott, Crustacea of Devon and Cornwall, p. 87, pl. ix. figs. 1-3.

Off St. Sampson's, Guernsey (*N.*); Jersey (*Chevreaux*).

Leptocheirus guttatus, Grube.

1887. *Ptilocheirus tricristatus*, Chevreaux, "Crust. Amphip. de la côte ouest de Bretagne," Bull. Soc. Zool. France, vol. xiii. p. 23, pl. v. figs. 3, 4, and woodcut at p. 6.

1906. *Leptocheirus guttatus*, Norman & Scott, Crustacea of Devon and Cornwall, p. 85, pl. ix. figs. 4-7.

Off St. Sampson's, Guernsey.

Gammaropsis maculata, Johnston. Jersey (*N.*, *S.* & *H.*).

Microprotopus maculatus, Norman. Guernsey (*N.*); Jersey (*Chevreaux*).

— *longimanus*, Chevreaux. Herm and Guernsey.

Photis longicaudata, Bate. Guernsey (*N.*); Jersey, off La Rocque (*S.* & *H.*).

Podocerospis Sophie, Boeck. Jersey (*S.*).

Megamphopus cornutus, Norman. Guernsey (*W.*); Jersey (*W.* & *H.*).

Amphithoe rubricata, Montagu. Guernsey and Jersey.

Pleoneaxes gammaroides, Bate. Guernsey and Jersey.

Sunamphithoe pelagica, H. M.-Edwards, = *S. conformata*, Bate. Guernsey (*N.*); Jersey (*Chevreaux*).

Bruzeliella falcata, Montagu. Jersey.

— *ocia*, Bate. One male, Jersey (*W.* & *H.*).

Jassa pelagica, Leach, = *Podocerus capillatus*, B. & W. Among *Styelopsis*, Jersey (*Köhler*).

Erichthonius abditus, Templeton. Guernsey (*N.*); Jersey (*S.* & *H.*).

— *Hunteri*, Bate. Guernsey.

— *difformis*, H. M.-Edwards. Jersey (*S.*).

Cerapus crassicornis, Bate. Jersey (*S.*).

Corophium volutator, Pallas, = *C. longicorne*, Latreille. Guernsey (*N.*); Jersey (*S.* & *H.*).

— *crassicorne*, Bate. Jersey (*S.*).

— *Bonelli*, H. M.-Edwards. Guernsey (*W.*).

- Unciola crenatipalmata*, Bate. Guernsey, in Fermain Bay in 1906, and also taken in 1865.
- Chelura terebrans*, Philippi. Jersey (W. & H., S.).
- Dulichia porrecta*, Bate. Between the Castle and St. Martin's Point, Guernsey (W.); Jersey (W. & H., S.).
- Platophium Darwini*, Bate. Guernsey (N.); Jersey, tide-marks (W.).
- Phthisica marina*, Slabber. Guernsey and Jersey.
- Pseudoprotella phasma*, Montagu. Jersey (Köhler).
- Periambus typicus*, Kröyer. Guernsey (N.); Jersey (S.).
- Caprella tuberculata*, Guérin. Guernsey.
- *linearis*, Linné. Guernsey (N.); Jersey (W.).
- *acanthifera*, Leach. Common, Jersey (S. & H.).
- , var. *levissima*, Mayer. Guernsey (N.).
- *acutifrons*, Latreille. Jersey (W. & H.).

OSTRACODA.

The following list contains the species known to me from the Channel Isles. The freshwater species have not been sought for, except the very fine *Cypris bispinosa*, which was sent to me many years ago by the late Dr. Lukis of Guernsey. The species which have the letter *B* after them are inserted on the authority of Dr. G. S. Brady; the rest have been found by myself.

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|---|---|
| <i>Cypris bispinosa</i> , Lucas. | <i>Cythere finmarchica</i> , G. O. Sars. |
| <i>Paracypris polita</i> , G. O. Sars. | — <i>tuberculata</i> , G. O. Sars. B. |
| <i>Pontocypris trigonella</i> , G. O. Sars. | — <i>runcinata</i> , Baird. |
| <i>Erythrocypris mytiloides</i> , Norman. | — <i>antiquata</i> , Baird. |
| <i>Argylloëcia cylindrica</i> , G. O. Sars. | <i>Cytheridea elongata</i> , G. S. Brady. |
| <i>Bairdia acanthigera</i> , G. S. Brady. | — <i>torosa</i> , T. R. Jones. |
| — <i>inflata</i> , Norman. B. | <i>Eucythere declivis</i> , Norman. |
| <i>Cythere lutea</i> , O. F. Müller. | <i>Loxoconcha impressa</i> , Baird. |
| — <i>cyamos</i> , Norman. | — <i>viridis</i> , O. F. Müller. |
| — <i>confusa</i> , Brady & Norman. | — <i>multiflora</i> , Norman. |
| — <i>pellucida</i> , Baird. | — <i>tamarindus</i> , T. R. Jones. |
| — <i>porcellanea</i> , G. S. Brady. | — <i>guttata</i> , Norman. |
| — <i>tenera</i> , G. S. Brady. | <i>Xestoleberis aurantia</i> , Baird. |
| — <i>badia</i> , Norman. | — <i>labiata</i> , Brady & Robertson. |
| — <i>crispata</i> , G. S. Brady. | — <i>depressa</i> , G. O. Sars. |
| — <i>Robertsoni</i> , G. S. Brady. | <i>Cytherura nigrescens</i> , Baird. |
| — <i>convexa</i> , Baird. | — <i>cornuta</i> , G. S. Brady. |
| — <i>marginata</i> , Norman. | — <i>sella</i> , G. O. Sars. |
| — <i>albomaculata</i> , Baird. | — <i>acuticostata</i> , G. O. Sars. |
| — <i>cuneiformis</i> , G. S. Brady. B. | — <i>angulata</i> , G. S. Brady. |
| — <i>villosa</i> , G. O. Sars. | — <i>producta</i> , G. S. Brady. |
| — <i>Jeffreysi</i> , G. S. Brady. B. | — <i>fulva</i> , Brady & Robertson. |

Cytherura striata, <i>G. O. Sars.</i>	Paradoxostoma obliquum, <i>G. O. Sars.</i>
— cellulosa, <i>Norman.</i>	— pulchellum, <i>G. O. Sars.</i>
Bythocythere constricta, <i>G. O. Sars. B.</i>	— fasciatum, <i>Brady & Norman.</i>
Pseudocythere caudata, <i>G. O. Sars.</i>	— Normani, <i>G. S. Brady.</i>
Sclerochilus contortus, <i>Norman.</i>	— hibernicum, <i>G. S. Brady.</i>
Cytherideis subulata, <i>G. S. Brady.</i>	— orchadense, <i>Brady & Robertson.</i>
Machærina amygdaloides, <i>G. S. Brady.</i>	— flexuosum, <i>G. S. Brady.</i>
Paradoxostoma variabile, <i>Baird.</i>	Philomedes interpuncta, <i>Baird.</i>
— ensiforme, <i>G. S. Brady.</i>	Asterope Mariæ, <i>Baird.</i>
— abbreviatum, <i>G. O. Sars.</i>	— teres, <i>Norman.</i>

COPEPODA.

In the commencement of this paper it is mentioned that my late friend Mr. Isaac C. Thompson recorded thirty-one species of Copepoda from Channel Island plankton. On the Harpacticoida and fish-parasites nothing has been published, and the few species in my own collection are not worth recording. It is probable that many minute species new to our fauna will hereafter be found in what may be expected to prove a very rich district. It is to be hoped that some naturalist with good eyes and a steady hand will before long work at these minims. But very much remains to be done in other orders, especially among the Sympoda and Ostracoda.

EXPLANATION OF THE PLATES.

PLATE XVI.

- Fig.* 1. *Gammarus Berilloni*, Catta.
Fig. 2. Ditto. Last uropod.
Fig. 3. *Microdeutopus gryllotalpa*, Costa. First gnathopod (♂), from Valencia, Spain.
Fig. 4. *Microdeutopus stationis*, Della Valle. Second gnathopod (♂).

PLATE XVII.

- Fig.* 1. *Metopa sarniensis*, sp. n. First gnathopod.
Fig. 2. Ditto. The distal joints of the same, more magnified.
Fig. 3. Ditto. Second gnathopod.
Fig. 4. Ditto. The distal joints of the same, more magnified.
Fig. 5. Ditto. The last pereopod.
Fig. 6. *Microdeutopus gryllotalpa*, Costa. Secondary flagellum of antennule.
Fig. 7. Ditto. Distal portion of first gnathopod (♂), from Plymouth.
Fig. 8. *Microdeutopus stationis*, Della Valle. Secondary flagellum of first antennule.
Fig. 9. Ditto. First gnathopod (♂).
Fig. 10. Ditto. Ditto, to show variation.
Fig. 11. Ditto. First gnathopod (♀).